

R E M A R K S

All the claims were amended to recite the terminology of a "method for promoting amelioration of rough skin and wrinkles," which is supported by the second paragraph on page 1 of the specification.

Claim 5 was amended to include features from claims 6 and 23.

New claim 26 is supported by the last paragraph on page 7 and the second paragraph of page 6 of the specification.

New claim 27 recites the features of amended claim 6.

With respect of Rule 116, entry of the AMENDMENT is respectfully requested, since the AMENDMENT addresses issues raised in the Final Rejection and serves to place the application in better form for an appeal, should an appeal be needed.

Claims 22 and 23 were rejected under 35 USC 112, first paragraph, for alleged lack of enablement or the reasons set forth beginning at the middle of page 3 and continuing to the top of page 4 of the Office Action.

The position was taken in the Office Action that the specification, while being enabling for a method of skin care, such as improving the moisture and tension of skin and the

amelioration of rough skin and wrinkles, does not reasonably provide enablement for the prevention of rough skin and wrinkles.

Claim 22 was amended to avoid the 35 USC 112, first paragraph rejection.

Claims 4 to 6 and 9 to 25 were rejected under 35 USC 112, second paragraph, for the reasons indicated beginning on page 5 and continuing to the middle of page 6 of the Office Action.

The Examiner objected to the term "skin beautification."

The claims were amended to avoid the 35 USC 112, second paragraph rejection.

It is respectfully submitted that the present claims comply with all the requirements of 35 USC 112.

The presently claimed invention is directed to methods for promoting amelioration of rough skin and wrinkles for a human, which comprises administering to a human a skin care agent which contains the combination of N-acetylglucosamine ("NAG") and chitinoligosaccharide (claim 4), or the combination of NAG and "collagen peptide" (claim 5).

Claims 5, 6, 13 to 15, 17, 19, 23 and 25 were rejected under 35 USC 103 as being unpatentable over Murad USP 5,804,594 and further in view of Biken Corp. JP 10165138 for the reasons set

forth beginning at the bottom of page 6 and continuing to the bottom of page 7 of the Office Action.

It was admitted in the Office Action that Murad does not teach a collagen peptide.

Claims 5 and 21 were rejected under 35 USC 103 as being unpatentable over Murad USP 5,804,594 and further in view of Biken Corp. JP 10165138, taken together with Haynes et al. USP 5,998,173 for the reasons set forth on page 8 of the Office Action.

It was admitted in the Office Action that the combination of Murad and Biken Corp. lacks the feature of claim 21, wherein the N-acetylglucosamine is obtained by the hydrolysis of chitin.

Claims 4, 9 to 12, 16, 18, 20, 22 and 24 were rejected under 35 USC 103 as being unpatentable over Murad and further in view of Suzuki et al. JP 08-165243, taken with Haynes et al. for the reasons set forth beginning at the bottom of page 8 and continuing to the top of page 11 of the Office Action.

It was admitted in the Office Action that the primary references lack the chitinoligosaccharide as claimed in claim 4 or the method of obtaining N-acetylglucosamine as claimed in claim 21.

Murad teaches N-acetylglucosamine ("NAG") in an orally administered pharmaceutical composition for the treatment of skin conditions, including the treatment of skin wrinkles. Biken Corp. teaches a health food containing (a) complex mucopolysaccharides containing hyaluronic acid, chondroitin sulfate and collagen and (b) nucleic acid (DNA and RNA), and further preferably contains (c) docosahexaenoic acid. Based on this, the position was taken in the Office Action that from Biken Corp., it would be obvious for one to be motivated to use collagen and/or a collagen peptide as an ingredient for a skin care agent, in this case in conjunction with the NAG described in Murad. Applicants respectfully disagree with this position for the following reasons.

The therapeutic effect to obtain improvement of skin condition is considerably different between Murad and the presently claimed invention.

In Murad, the active substances are effective for improving skin condition by thickening the skin and inhibiting the activity of collagenase and elastase. As a result, there is a set of data described in Example 7 concerning skin moisture on the cheek area by employing an instrument called a "Corneometer." Column 15, lines 19 to 37 in Murad read as follows:

"The general appearance of soft, smooth skin depends largely on the presence of an adequate amount of water in the stratum corneum. The Corneometer is a commercially available instrument (Courage & Khaaka, Germany) to measure the changes in capacitance of the skin resulting from changes in the degree of hydration....Table IV shows no significant changes in the hydration of the stratum corneum following 2 weeks ($p < 0.84$) and 5 weeks ($p < 0.67$) of product use."

In contrast to Murad, in the present application there is corresponding data described in TEST EXAMPLE 5 beginning on page 5 of the present specification regarding skin moisture on the site below the eye by employing the very same Corneometer instrument described in Murad. See the last sentence on page 20 of the specification, which reads as follows:

"As shown in Table 4, significant increase was confirmed in the moisture content at the site below the left eye in the NAG group." (emphasis supplied).

TEST EXAMPLES 4-5 in the present specification were carried out with a tablet containing collagen peptide that was prepared as described in Example 1, the composition of which is set forth in TABLE 6 on page 25 of the specification. The collagen peptide, which was prepared as described in PREPARATION EXAMPLE 3

on pages 12 and 13 of the specification, is one of major ingredients of the composition (NAG: 40 wt %; collagen (peptide): 30 wt%). In view of the above, it is likely that the difference with respect to the hydration of the surface of the skin comes from the use of a collagen peptide in combination with N-acetylglucosamine, as in the presently claimed invention.

Additionally, according to the data set forth in the DECLARATION UNDER 37 CFR 1.132 of Yoshiharu MATAHIRA dated April 5, 2004, which is submitted concomitantly herewith, it is shown that, after administration to a human body, NAG and collagen peptide act in an additive and/or synergistic manner to maintain adequate moisture (see and compare, for example, the numbers (i) in the row of "Desiccation" of Table 1, Table 2 and Table 3 on pages 3 and 4 of the April 5, 2004 MATAHIRA DECLARATION, (ii) in the row of "Moisture content" of Table 4, Table 5 and Table 6 on pages 5 and 6 of the April 5, 2004 MATAHIRA DECLARATION, and (iii) in the row of "SEsc" of Table 7, Table 8 and Table 9 on pages 6 and 7 of the April 5, 2004 MATAHIRA DECLARATION).

With respect to Rule 116, consideration of the enclosed MATAHIRA DECLARATION is respectfully requested, since the DECLARATION serves to address issues in the Final Rejection.

It is respectfully submitted that, since maintaining an adequate moisture of the surface of the skin is an important objective of a skin care composition, the method of the present invention, in which additive and/or synergistic effects are attained by a simultaneous administration of NAG and a collagen peptide, would provide a substantial progress in the field.

Considering that (A) collagen peptide and (B) NAG are two major ingredients of the composition in the present invention, there are no teachings in the prior art of a simultaneous administration of these components which are effective to improve the moisture and tension of the skin.

Although the position is taken in the Office Action that from Biken Corp. it would be obvious for one to be motivated to use collagen and/or collagen peptide as an ingredient for a skin care agent, the following serves to rebut such position.

Firstly, Murad does not mention the use of collagen and/or collagen peptide as an ingredient of a pharmaceutical composition for the treatment of skin conditions.

Secondly, since Biken Corp. teaches only a composition of (a) complex mucopolysaccharides + (b) nucleic acid + (c) docosaheptaenoic acid, without exhibiting any effects specifically for the skin moisture, Biken Corp. does not teach or suggest

whether the administration of collagen alone would be effective or not.

Thirdly, there is no teaching from the references that one of the ingredients of a composition of (a) complex mucopolysaccharides (containing hyaluronic acid, chondroitin sulfate and collagen) + (b) nucleic acid + (c) docosahexaenoic acid, such as collagen, would be preferentially selected to use for maintaining skin moisture in conjunction with NAG.

As described in the specification on page 8, lines 13 to 17, the collagen peptide obtained by extraction from fish, can safely be used, as compared with materials from dairy farmers, since it is free from infection of diseases such as bovine spongiform encephalopathy, and foot and mouth disease of pigs or hogs.

In the enclosed DECLARATION UNDER 37 CFR 1.132, it is shown that collagen peptide derived from cod bone (fish) is more susceptible to an aminopeptidase than collagen peptide derived from an animal. Correspondingly, free amino acids become available more easily. Therefore, by improved digestion after being orally administered, the present invention provides a method to improve the absorption of active substances derived

from the high molecular weight of collagen peptide (MW 1000-10,000).

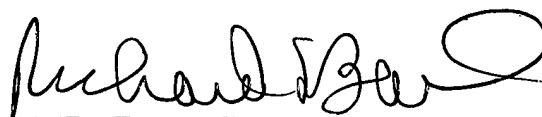
It is therefore respectfully submitted that the use of fish collagen in the present invention, is another feature that makes the presently claimed invention substantially different from the teachings of Biken Corp. or any of the other cited references, and provide substantial progress in the field.

It is therefore respectfully submitted that applicants' claimed invention is not rendered obvious over the references, either singly or combined in the manner relied upon in the Office Action, in view of the distinctions discussed hereinabove. It is furthermore submitted that there are no teachings in the references to combine them in the manner relied upon in the Office Action.

Reconsideration is requested. Allowance is solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Richard Barth", written over a horizontal line.

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Enc.: DECLARATION UNDER 37 CFR 1.132 of Yoshiharu MATAHIRA
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